

**APPLICATION OF HARDWARE CAPITAL THERAPY TO IMPROVE THE QUALITY OF LIFE WITH HYPERTENSION IN THE AREA OF PUSKESMAS ROWOSARI SEMARANG**

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**ABSTRACT**

*Hypertension is a condition in which a person experiences an increase in blood pressure above normal which is prone to occur in the elderly, thereby reducing the quality of life of the elderly. Gardening therapy is one of the modalities of therapy that aims to improve the quality of life. This case study aims to describe the application of gardening modality therapy to improve the quality of life of the elderly with hypertension. This case study method uses a descriptive method involving 2 subjects with cooperative elderly criteria, the elderly aged > 60 years and having a history of hypertension (systolic blood pressure 140 mmHg and diastolic blood pressure > 90mmHg). The results of this case study indicate an improvement in the quality of life of the elderly. between before and after gardening therapy was carried out for 2 weeks. Subject I experienced an increase in quality of life from sufficient, namely 85 to good, namely 98. Meanwhile, subject II increased quality of life from sufficient, namely 86 to good, namely 105. The conclusion of this case study is that gardening therapy is effective in improving the quality of life of the elderly with hypertension in both subjects. Gardening therapy is highly recommended as a nursing intervention in hypertension management in the elderly with hypertension*

*Keywords: Hypertension, Quality of Life for the Elderly, Gardening Modality Therapy*

**1. INTRODUCTION**

The increasing prevalence of hypertension every year is a major problem in developing and developed countries. Various changes due to the aging process will be experienced by the elderly that trigger hypertension (1). The increase in diastolic blood pressure (TDD) is more common in people > 50 years of age. With increasing age, the increase in systolic blood pressure (TDS) is more pronounced due to stiffness and arterial complaints. Hypertension is experienced by more than half of people aged >60 years due to TDS (2).

The World Health Organization (WHO) in 2015 showed that around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world is diagnosed with hypertension. The number of people affected by hypertension continues to increase every year, it is estimated that by 2025 there will be 1.5 billion people affected by hypertension, and it is estimated that every year 9.4 million people die from hypertension and its complications (3). According to Rikerdas data in 2018, the elderly with hypertension occurred in the age group of 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%)(3). According to the March 2019 Susenas data, it showed that the province with the highest percentage of population in 2019 was DIY (14.50%), Central Java was in second place at (13.36%)(4). The prevalence of hypertension at the Rowosari Health Center in March 2021 was 825 people.

Advanced is the final stage of development in human life. (5) Elderly according to Law Number 13 of 1998 is someone who has reached the age of 60 (sixty) years and over. Currently, we are entering the aging population period, where there is an increase in life expectancy followed by an increase in the number of elderly people. Indonesia experienced an increase in the number of elderly people from 18 million people (7.56%) in 2010, to 25.9 million people (9.7%) in 2019, and is expected to continue to increase where in 2035 to 48.2 million people (15.77%)(6).

The elderly population continues to increase in line with progress in the health sector which is marked by an increase in life expectancy and a decrease in mortality (7). The increase in the number of elderly is directly proportional to the problems that occur in the elderly (8). The aging process that occurs will have

an impact on various aspects of life, especially health. One of the most common diseases in the elderly for non-communicable diseases is hypertension (4).

Hypertension affects the quality of life of patients who require long therapy and complications of the disease, so that it has an impact on decreasing the quality of life in physical, psychological and social aspects. Hypertension is a silent killer where symptoms can vary in each individual and are almost the same as symptoms of other diseases. Symptoms include headaches/heaviness, blurred vision, ringing in the ears, and nosebleeds(8),(4).

Hypertension that does not get proper treatment causes complications such as stroke, coronary heart disease, diabetes, kidney failure and blindness. Stroke (51%) and Coronary Heart Disease (45%) are the highest causes of death. Many hypertensive patients with uncontrolled high blood pressure and the number continues to increase (4). This condition can affect the quality of life of people with hypertension (9).

A good quality of life is characterized by being free from complaints, having normal bodily functions and feelings, feeling healthy and happy, having a satisfying work career, good interpersonal relationships, being able to work well, and being able to deal with stress in life. The quality of life of the elderly with hypertension is influenced by individual factors and environmental factors (10). Gardening therapy is one of the long-term treatments to maintain the quality of life for the elderly with hypertension (11).

Gardening therapy is a modality therapy that aims to be able to practice patience, togetherness, and how to take advantage of free time. There are several activities carried out such as planting kale, lombok, spinach, and others (12). Gardening is one method that can be used as an alternative recreation that is suitable for healthy living activities. Doing something based on a hobby will be easier to do because it is not a burden, or a demand that actually burdens the elderly. One hobby that can be used as an alternative therapy is gardening(13).

Gardening activities provide emotional satisfaction when harvesting, a sense of belonging, and encouragement of communication because they are done together which is a form of self-expression that can allow the distribution of emotions to create a sense of comfort. Feeling comfortable, calm and happy will activate the HPA axis. The HPA axis will stimulate the hypothalamus so that it reduces the secretion of CRH (Corticotropin Releasing Hormone) causing ACTH (Adrenocorticotrophic Hormone) to decrease and stimulates POMC (Pro-opimelanocortin) which also reduces the production of ACTH and cortisol thereby stimulating the production of endorphins. Endorphin hormones will be produced and secreted by corticotropic cells in the anterior pituitary when conditions are calm and comfortable. Endorphins cause vascular dilation. The decrease in cortisol and ACTH as well as the increase in endorphins relaxes blood vessels so that it will reduce peripheral resistance and cardiac output so that it affects blood pressure (13).

According to research from Miftahudin (2018), gardening modality therapy has proven to be an effective and efficient way that the elderly can do to improve physical, psychological, social, and environmental conditions so that the quality of life of the elderly increases by 95% (14). Gardening modality therapy is carried out for 2 weeks with a minimum of four meetings (14).

The results of research from Magfirah (2018) show that gardening therapy is effective for normalizing the blood pressure of the elderly with hypertension, so it is hoped that the elderly can take gardening therapy as an alternative to non-pharmacological therapy that can be done independently or together without causing side effects (12). As well as research from Maria Aditia in 2019 that gardening activities carried out on the elderly turned out to have a tremendous positive impact, improving health and mental health (15). 60% of respondents experienced a decrease in TDS after doing gardening therapy. Diastolic blood pressure (TDD) after gardening therapy was in the range of 70-90 mmHg. 40% of the respondents experienced a decrease in diastolic blood pressure (15). Horticultural Therapy has an impact on high blood pressure, so there is a difference in blood pressure in the elderly with hypertension before and after horticultural therapy (16).

Families play a major role in various aspects of hypertension management including adherence to medication, lifestyle modification and follow-up visits. Based on the description above, the authors are interested in conducting a case study regarding the application of gardening modality therapy in improving the quality of life of the elderly with hypertension in the Rowosari Health Center Semarang area.

## **2. LITERATURE REVIEW**

### **2.1. Family Concept**

The understanding of the family is very varied according to the orientation that is used as the basis for its definition, the following is the definition of family:

1. Opinions that adhere to interactional theory view the family as an arena for personality interaction to take place. Meanwhile, those who are oriented to the social system perspective

view that the family is the smallest social part consisting of a set of components that are highly dependent and influenced by internal structures and other systems. (22)

2. Spradley and Allender (1996) suggest that the family is one or more individuals who live together, so that they have emotional bonds and develop social bonds, or mothers and children. (22)
3. The family is part of society whose role is very important to form a healthy culture. The family is used as a service unit because family health problems are interrelated and influence each other between family members and will also affect the families around them or the community. (15)

## 2.2. Elderly

In Abdul Muhith's book (2016) according to Setianto (2004) it is said to be advanced if he is 65 years and over (9). Elderly is not a disease, but is an advanced stage of a life process marked by a decrease in the body's ability to adapt to environmental stress (9). Elderly according to Hawari (2001) is a condition characterized by a person's failure to maintain a balance against physiological stress conditions. This failure is related to a decrease in the ability to live and an increase in individual sensitivity. The elderly according to Bailon G. Salvaclon (1987) are two or more individuals who join because of blood relations, marriage, or adoption, live in one household, interact with each other in their role to create and maintain a culture (22).

Aging is a condition that occurs in human life. The aging process is a lifelong process, not only starting from a certain time, but starting from the beginning of life. Growing old is a natural process which means that a person has gone through three stages of life, namely children, adults and old people (22).

## 2.3. Hipertension

Hypertension is a condition in which a person experiences an increase in blood pressure above normal which results in an increase in morbidity and mortality (26). Hypertension is characterized by increased blood pressure on the walls of the arteries. This condition causes the heart to work harder to circulate blood throughout the body through the blood vessels. This can disrupt blood flow, damage blood vessels, and even cause degenerative diseases, up to death (26). According to WHO, the limit of blood pressure that is still considered normal is less than 130/85 mmHg, whereas if it is more than 140/90 mmHg it is declared as hypertension (27).

### 2.3.1. Hypertension classification

Blood pressure in a person's life varies naturally. Babies and children normally have much lower blood pressure than adults. Blood pressure is also influenced by physical activity which will be higher during activity and lower when resting. Blood pressure in one day is also different, highest in the morning and lowest during sleep at night (28). Classification of hypertension according to The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and the Treatment of High Blood Pressure (26).

### 2.3.2. Causes Of Hipertension

Causes of hypertension are divided into two, namely:(27)

#### a. Essential or Primary Hypertension

The exact cause of essential hypertension is still unknown. Approximately 90% of patients with hypertension are classified as essential hypertension while 10% are classified as secondary hypertension. In essential hypertension, no renovascular disease, kidney failure or other diseases were found. Genetics and race are part of the cause of essential hypertension including stress, moderate alcohol intake, smoking, environment and lifestyle (27).

#### b. Secondary Hypertension

Secondary hypertension is hypertension whose cause can be identified, including renal vascular disorders, thyroid gland disorders (hyperthyroidism), adrenal gland diseases (hyperaldosteronism). The largest group of people with hypertension is essential hypertension, so the investigation and treatment is aimed at patients with essential hypertension

## 2.4. Quality Of Life

Quality of life according to the World Health Organization Quality of Life (WHOQOL) Group is defined as an individual's perception of the individual's position in life in the context of the culture and value system in which the individual lives and its relationship to the goals, expectations, standards set and one's concerns.

Harper, Orley, Herrman, Schofield, Murphy & Sartorius (1998) from the World Health Organization (WHO) explain that quality of life is an individual's perception of an individual's position in life according to the cultural context and value system he adheres to, where the individual lives and its relationship with expectations, goals, set standards and individual concerns. Quality of life is also a very important criterion

in the assessment of medical outcomes of chronic disease treatment. Individual perceptions of the impact and satisfaction of health status and limitations become important in the final evaluation of treatment (33).

Quality of life includes how individuals perceive the goodness of some aspects of their lives. Quality of life in sustaining the wider individual is an important factor in ensuring that the person can live well with care and support until death (34).

Quality of life is a broad concept covering how individuals measure the goodness of several aspects of life which includes individual emotional reactions to life events, dispositions, life satisfaction, satisfaction with work and personal relationships.

Understanding the quality of life above, it can be concluded that the quality of life is a subjective perception or assessment of the individual which includes several aspects at once which include physical, psychological, social, cognitive conditions, relationships with roles, spiritual and environmental aspects in everyday life.

In general, the elderly have limitations, so that the quality of life in the elderly has decreased. To maintain the quality of life, remain active and productive, the elderly need ease of activity, an understanding of the activity environment, and adequate health services. The ease of doing activities will help the elderly to perform their activities without obstacles, using minimal energy and avoiding injury

## **2.5. MODALITY THERAPY**

Modality therapy is the main therapy in psychiatric nursing. This therapy is given in an effort to change the patient's behavior from maladaptive behavior to adaptive behavior (37).

Modality therapy is therapy in the form of activities carried out by the elderly to fill spare time, with the aim of improving the health of the elderly, increasing the productivity of the elderly, increasing social interaction between the elderly and preventing psychological and mental problems in the elderly (11).

### **2.5.1. Goals of Modality Therapy**

The purpose of implementing modality therapy in psychiatric nursing is to:

- a. Raise awareness of one of the behavior of patients
- b. Slow down the decline
- c. Help adapt to the current situation
- d. Affects self-care skills
- e. Increase activity
- f. Increases independence(37)

### **2.5.2. Types of Modality Therapy Activities**

Types of activities in modality therapy, among others:(11)

- a. Psychodrama  
This therapy aims to express the feelings of the elderly so that the elderly can convey their feelings according to the chosen role
- b. Group activity therapy (TAK)  
Therapy consisting of 7-10 people, with the aim of increasing togetherness, socializing, exchanging experiences, and changing behavior.
- c. Music therapy  
Therapy that aims to entertain the elderly so as to increase passion for life, prevent cognitive decline and can reminisce about the past.
- d. Gardening therapy  
Therapy that aims to train patience, togetherness, and take advantage of free time.
- e. Therapy with animals  
Therapy that aims to increase affection and fill his lonely days by playing with animals.
- f. Occupational therapy  
Therapy that aims to take advantage of free time and increase productivity by creating or producing works from materials that have been provided.
- g. Cognitive therapy  
Therapy that aims to prevent cognitive decline and memory loss.
- h. Life review therapy/ reminiscence therapy  
Therapy that aims to increase passion for life and self-esteem, as well as prevent a decline in cognitive function and improve meaningful cognitive function by telling life experiences
- i. Recreation  
Therapy that aims to increase socialization, passion for life, reduce boredom, and see sights.
- j. Religious therapy

Therapy given with the aim of togetherness, preparation for death, and increasing a sense of comfort.

k. Family therapy

Therapy given to all family members as a treatment unit. The goal is for families to be able to carry out their functions

## 2.6. GARDENING THERAPY

Gardening therapy is a form of active therapy. Gardening therapy can improve physical and psychological health and quality of life. Gardening therapy is a special therapy because this therapy is directly related to living things, namely plants that require non-discriminatory treatment. This gardening therapy itself aims to train the patience of the elderly (38).

Gardening is one method that can be used as an alternative recreation that is suitable for healthy living activities. Doing something based on a hobby will be easier to do because it is not made a burden, or a demand that actually burdens the elderly (15).

In this gardening therapy, plants are not specifically defined but are horticultural plants, namely vegetables, fruits and ornamental plants. Gardening therapy benefits four basic areas: cognitive, social, psychological and physical development (24).

## 3. RESEARCH METHODOLOGY

### 3.1. Case Study Subject

The subjects in this case study used two respondents with the following criteria.

1. Inclusion criteria:

- a. Elderly who are able to carry out activities and cooperative
- b. Seniors aged 60-70 years
- c. Elderly who have a history of hypertension (systolic blood pressure 140 mmHg and diastolic blood pressure > 90mmHg)

2. Exclusion criteria:

- a. Elderly who have physical limitations in carrying out activities
- b. Elderly with hearing loss
- c. Elderly with dementia
- d. Respondent resigned

### 3.2. Study Focus

This case study focuses on the application of gardening modality therapy to improve the quality of life of the elderly with hypertension

### 3.3. Data Collection Method

1. Preparation stage

- a. Manage licensing with Rowosari Health Center to conduct research case studies.
- b. Explain the purpose, objectives, and timing of the case study to the head of the Rowosari Health Center or the nurse in charge at the case study site and ask for approval to involve the subject in the case study

2. Implementation stage

- a. Conduct sampling to determine the number of respondents who meet the inclusion criteria.
- b. Collecting identity data on case study subjects
- c. Provide information regarding the purpose and procedure of the case study to be carried out to the subject and the subject's family
- d. Asking the family or subject to sign an informed consent form as proof of approval of the case study on the subject.
- e. Identify and discuss with subjects about gardening therapy, as well as contract the time of the action and make a schedule for the first week..
- f. This case study was conducted for 2 weeks and observations were carried out for 4 times. Each meeting session lasts approximately 1 hour
  - 1) The first meeting provides an explanation of the aims and objectives and determines the time contract for the next activity to provide informed consent sheets and questionnaire sheets before implementation.
  - 2) The second meeting prepares tools and materials

- 3) The third meeting teaches the techniques of gardening modalities, planting methods, plant maintenance and harvesting
  - 4) The fourth meeting is observing the results of therapy, giving a questionnaire sheet after the implementation of therapy
- g. Researchers collected data, then processed data analysis and presented data from data collection data

### **3.4. Location and Time of Case Study**

This case study was conducted in the Rowosari Health Center area. The case study was carried out for two weeks on 12 April – 26 April 2021

### **3.5. Data Analysis and Presentation**

1. Data Analysis  
Based on the data obtained, it will be analyzed by comparing the level of quality of life of the respondents before and after the implementation of gardening modality therapy. Then the data were compared based on the measurement of the level of quality of life between Subject I and Subject II.
2. Data Presentation  
The presentation of the data after the data assessment is done and the results of the case studies are obtained will be continued in the form of tables and text.

## **4. RESULTS AND DISCUSSION**

### **4.1. Overview of Case Study Subjects**

#### **Subject I**

Researchers visited Subject I on April 12, 2021 at 10:00 WIB. The results of the data collection showed that subject I was male, 61 years old, Muslim, and the last education was junior high school. Subject I is a retired Indonesian National Armed Forces (TNI) who is currently busy at home. The client feels now that his body is not like it used to be. Doing activities now tired quickly. The client suffers from hypertension after retiring for more than 5 years and has no other complaints. The client said he often felt dizzy, felt heavy in the neck, and tingling in the legs. Subject I had not smoked since he had hypertension. When the blood pressure was measured, the result was 150/90 mmHg.

Subject I lived with his wife and child. The wife is only a housewife, while the children work in the market. Subject I actually likes gardening but lacks gardening experience, because every day Subject I works in connection with the government and lacks time for gardening. Subject I said that he did not get support from his son to overcome his hypertension because he was busy at work. Subject I said that he rarely had a health check at the Puskesmas if there were no serious complaints. Subject I said that his family history also had hypertension. At the posyandu, the elderly have also been given health education related to hypertension prevention, one of which has now been done, namely quitting smoking and reducing food that has too much salt.

#### **Subject II**

Researchers visited Subject II on April 12, 2021 at 16.00 WIB. The results of the data collection showed that subject II was 60 years old, male, Muslim, and the last education was junior high school. Subject II worked as a farmer, suffered from high blood pressure (hypertension) for more than 2 years and had been rushed to the hospital due to blood pressure reaching 200/110 mmHg. Subject II is still able to move on his own but now he is unable to go to the fields, gets tired easily and gets tired when he goes to the fields, the client does not experience physical weakness and does not have dementia. Subjects often complain of dizziness, sudden blurred vision and feeling stiff in the neck and tingling in the legs. When the blood pressure was measured, the result was 140/90 mmHg.

Subject II lived alone with his wife who also did not work. His son worked to migrate to the city. The subject's family rarely pays attention to the health of the subject II. Subject II had received health education about hypertension at the Puskesmas and was recommended to do a salt diet and stop smoking but it was not implemented. Subject II did not take high blood pressure medication if there were no complaints. Before being sick, subject II really liked gardening. In the fields he owns, rice and vegetables are planted as a livelihood.

### **4.2. Presentation of Study Focus Results**

#### **a. Quality of Life Data Before Gardening Modality Therapy**

Table 1 Frequency Distribution of Quality of Life Subject I Before being given Gardening Modality Therapy in Bulusan Village, Tembalang District, Semarang City

No.	Indicator	Results Questionnaire	Amount
1.	Frequently Asked Questions	3,3	6
2.	Physical health	3,4,3,3,3,4,3	23
3.	Psychology	3,3,3,3,3,3	18
4.	Social relations	5,3,3	11
5.	Environment	3,3,4,3,4,3,3,4	27
<b>Total</b>			<b>85</b>

Table 4.2 Frequency Distribution of Quality of Life Subject II Before being given Gardening Modality Therapy in Bulusan Village, Tembalang District, Semarang City

No.	Indicator	Results Questionnaire	Amount
1.	Frequently Asked Questions	3,3	6
2.	Physical health	2,2,3,4,3,4,4	22
3.	Psychology	3,3,4,4,4,4	22
4.	Social relations	3,3,4	10
5.	Environment	3,4,3,4,3,4,3,4	28
<b>Total</b>			<b>86</b>

From tables 1 and 2, it can be seen that the quality of life of the hypertensive elderly before the application of gardening modality therapy was seen from the number of subjects I was 85 and subject II was 86. This can be categorized as sufficient because it is in the range of 61 – 95.

#### 4.3. Discussion

The results of a case study in the target area of the Rowosari Health Center Semarang regarding the application of gardening therapy to improve the quality of life in subject I and subject II before and after giving therapy for 2 weeks there was an increase in the quality of life in both subjects.

The therapy used to improve the quality of life is gardening which is carried out for approximately 2 weeks. Before and after doing therapy, subjects I and II filled out the World Health Organization Quality of Life (WHOQOL) quality of life questionnaire where the level of quality of life was in accordance with the score, which was categorized as less if the number of questionnaires was 26-60, categorized as sufficient if the number of questionnaires was 61-95, categorized good if the number of questionnaires is 96 – 130.

From the results before doing gardening therapy, the client filled out a questionnaire measuring the level of quality of life using the World Health Organization Quality of Life (WHOQOL) questionnaire and the score of Subject I was 85 while subject II was 86. Both the number of questionnaires from each subject I and subject II in the World Health Organization Quality of Life (WHOQOL) questionnaire was sufficient. So it can be concluded that the quality of life of subject I and subject II is included in the sufficient category. This is obtained from Azwar's formula which categorizes the quality of life with good values in the range of 96 – 130, sufficient in the range of 61 – 95, while less in the range of 26 – 60 (14).

Hypertension is a chronic disease that can cause certain implications. In addition to the implications for organs, hypertension can have an influence on the socio-economic life and quality of life of a person. Several studies state that individuals with hypertension have lower scores measured by the WHOQOL questionnaire compared to normal individuals. This is because hypertension can have a negative effect on vitality, social function, mental health, and psychological function (24).

Quality of life is influenced by the level of independence, physical and psychological conditions, social activities, social interactions and family functions. In general, the elderly experience limitations, so that the quality of life in the elderly has decreased (44). Research conducted by Soni concluded that there is a relationship between hypertension and a decreased quality of life, where in the study it was stated that the elderly with hypertension had 4.6 times less life. quality compared to the elderly who do not have hypertension (24).

During the gardening therapy activities, subject I and subject II were able to perform well. Clients are able to carry out activities ranging from preparing tools to harvesting gardening products. Subject I and subject II felt very happy and satisfied when they succeeded in growing vegetables and harvesting the results. Barriers during the implementation of this research action using a questionnaire with the target group of the elderly. This condition requires understanding to fill out the questionnaire and also experiencing decreased vision which makes it difficult for the elderly to read, so researchers have to read out questions that are difficult for the subject to understand. Bottles are also easily mossy which can result in less nutrients needed by plants. Limited plant seeds in one bottle. Each bottle can only grow a maximum of five plants because the fewer plants, the better the nutrients the plants get

After completing the gardening modality therapy, subject I and subject II filled out a questionnaire measuring the level of quality of life with the World Health Organization Quality of Life (WHOQOL) questionnaire and the total number for subject I was 98 while subject II was 105. It can be concluded that the score according to the World Health Organization Quality of Life (WHOQOL) questionnaire is the level of their quality of life in the good category. This shows that the application of gardening modality therapy can improve the quality of life in hypertensive patients.

In the physical aspect obtained in subject I as much as 80% which was previously 65.1% and in subject II as much as 77% which was previously 62%. This indicates that there is an increase in the results of the quality of life in the physical aspect. The improved physical aspects in subject I were fully experienced having sufficient energy for daily activities, ability to socialize, satisfaction during sleep, satisfaction in the ability to work. While in subject II the improved physical aspects are the possession of sufficient energy for daily activities, the ability to socialize, satisfaction during sleep. Physical changes that occur in the elderly will certainly affect the independence of the elderly. Independence in the elderly is very important to take care of themselves in meeting basic human needs (45). Individuals who are physically healthy tend to have a good quality of life, this is because a healthy body can create independence in the elderly (46).

As written in the nursing journal of Anis Ika N.R, the results of the study show that physical factors are one of the factors that influence the quality of life (47). By doing physical activity, can increase life expectancy longer. In addition, it can lower blood pressure in the elderly and reduce the risk of stroke. Beta-endorphins will be released by someone who does physical activity so that it can bring pleasure and relieve stress. Of the several benefits generated by physical activity, it can improve the quality of life of the elderly, including the elderly with hypertension (48).

In the psychological aspect, 70% of the subjects were found in subject I, previously 60%, and in subject II, 86%, which was previously 73%. This indicates that there is an increase in the results of the quality of life in terms of psychology. Psychological aspects in subject I which increased, namely accepting the appearance / changes in the body, satisfaction with oneself, rarely had negative feelings such as loneliness, hopelessness, anxiety and depression. Meanwhile, in the second subject, the improvement was enjoying life, feeling that life was meaningful, never having negative feelings such as loneliness, hopelessness, anxiety and depression.

According to Iwan Shalahudin in the journal of psychiatric nursing that physical and religious/psychological activity is an applicable, easy, and friendly intervention that can be done in improving the quality of life of the elderly (49). This aspect of psychological health consists of thinking; study; memory and concentration, self-esteem, appearance and body image, negative feelings, positive feelings and spirituality (46).

The psychological aspect is related to the mental state of the individual. The mental state refers to whether or not the individual is able to adapt to various developmental demands in accordance with his abilities, both internal and external demands (50). In old age a person will experience changes in terms of physical, cognitive, and psychosocial life (50). Psychological health refers to the positive effects of spirituality, thinking, learning, memory, and concentration, self-image and appearance, self-esteem, and negative effects (50). Elderly people who have a good mental condition tend to do positive things to support quality of life (51).

In the social aspect there was no increase or decrease, namely in subject I as much as 73% before or after therapy and in subject II as much as 66% before or after therapy. This percentage does not change because this therapy is carried out during a pandemic, so interaction with the community is limited. This gardening therapy can be done in the home environment, no need to leave the house. This indicates that there is a balance in the quality of life in the social aspect. Good social support and quality family assistance can improve the patient's quality of life (52)

According to Arianti Kusumawardani's research, there is a significant relationship between social support and quality of life in the elderly with hypertension. The hypertensive elderly group in this study



tended to be encouraged to seek good treatment to achieve a high quality of life when they felt they had high social support, especially when social support was considered positive to help them. It is hoped that health clinicians will pay attention to social support as a contributing factor in improving the quality of life of the hypertensive elderly, and create conditions that facilitate the exchange of social support (53).

This is in line with the results of research conducted by May Dwi Yuri which shows that social support improves the quality of life in the elderly. Social support affects the responses and behavior of the elderly, so that it also has an impact on the welfare or quality of life of the elderly. The elderly will also be motivated by social support in carrying out daily activities and in dealing with problems in their lives (54).

In the environmental aspect, it was found in subject I as much as 72.5% which was previously 67.5% and in subject II as much as 85% which was previously 70%. This indicates that there is an increase in the quality of life in terms of environmental aspects. In the environmental aspect, subject I increased, namely the frequent availability of information for daily life, being satisfied with the current living conditions. While in subject II there is an increase in the quality of life, namely feeling very safe in daily life, having enough money to meet the needs of life, frequent availability of information for daily life, often having opportunities for fun/recreation. a sense of security, adequate information is a factor that can affect the quality of life of an elderly person (24).

The results of the case study conducted by the researcher are in accordance with the research carried out by Miftahuddin entitled "The Effect of Application of Gardening Modality Therapy on the Quality of Life of the Elderly with Hypertension at the Posyandu, Pelem Village, Karangrejo District, Magelang Regency". This study was conducted on 25 patients whether the application of gardening modality therapy affects the quality of life in hypertensive patients. Before using gardening modality therapy, the quality of life for the elderly in the physical aspect, it was found that the quality of life was sufficient for 21 people (84%), in the social aspect, 17 people (68%), in the psychological aspect, 21 people (84%). %, while in the environmental aspect, 25 people (100%) have enough quality of life. With gardening modality therapy, the quality of life in hypertensive patients can be increased (14).

In a research conducted by Musrivo, the results of a literature review show that horticultural therapy improves health holistically, physically, psychologically, and socially. Horticultural therapy is able to reduce anxiety, stress and depression as well as increase self-efficacy and neurorehabilitation in the elderly, elderly satisfaction, quality of life, sensitivity to the environment, increase cognitive in children with autism, improve motor development in children and socialization in children with intellectual disabilities (55).

Improved quality of life after gardening modality therapy can occur because the physical aspects, psychological aspects, social aspects and environmental aspects after gardening modality therapy show good results. This is because the elderly previously had less activity. When doing a lot of movement, the level of fitness tends to increase. And also gardening modality therapy reduces psychological problems in the elderly, the elderly feel much fresher and more pleasant when they see green plants. This therapy can increase social interaction, because of a person's curiosity about new activities around them. This encourages people not to throw away used bottles because they can be used as planting media so that they can be used as an additional economic source (14).

The intervention in the form of gardening therapy for subject I and subject II for the first meeting began on Monday, April 12, 2021, which was located in Rowosari in the yard of each subject's house I and subject II which was carried out for 2 weeks with a minimum of 4 meetings. The first meeting provides an explanation of the aims and objectives and determines the time contract for the next activity, giving informed consent sheets and questionnaire sheets before implementation. The second meeting prepares tools and materials. The third meeting taught the techniques of gardening modalities, planting methods, plant maintenance and harvesting. The fourth meeting was observing the results of therapy, giving a questionnaire sheet after the implementation of therapy.

The results of the nursing evaluation obtained after using gardening modality therapy, subject I and subject II, the total score using the World Health Organization Quality of Life (WHOQOL) questionnaire was the level of their quality of life in the good category. The results of the case study conducted by researchers are in accordance with other similar studies conducted by Miftahuddin by providing gardening modality therapy for 3 weeks which was carried out on the elderly in Pelem Village, Karangrejo District, Magetan Regency, there was an increase in the quality of life for the elderly with hypertension.

Based on the results of the case study, it was found that there were differences in the increase in each instrument in the two subjects. Subject I was categorized as good with 98 results if the percentage of each aspect was 80% physical aspect, 70% psychological aspect, social aspect 73%, and environmental aspect 72.5%. Meanwhile, subject II is categorized as good with 105 results if the percentage of each aspect is 77% physical aspects, psychological aspects 86%, social aspects 66%, and environmental aspects 85%. The

difference in the case study results is influenced because subject I lacks gardening experience, while subject II works as a farmer before being sick, so the level of independence of subject II in doing gardening therapy is better.

At the level of family independence, the family is less supportive during therapy because they are busy with their work. The creation of a beautiful and pleasant living place to live in is very dependent on the interaction of the members in it who have shared commitments among fellow members and are aware of their respective duties and obligations.

## 5. CONCLUSION

Based on the results of case studies and discussions about the application of gardening modality therapy in the elderly with hypertension with a family nursing care approach, it can be concluded that;

1. There was an increase in the quality of life in subject I between before and after giving gardening modality therapy which was carried out for 2 weeks which was observed and evaluated with the World Health Organization Quality of Life (WHOQOL) questionnaire from the results of 85 sufficient categories to 98 good categories.
2. There was an increase in the quality of life in subject II between before and after giving gardening modality therapy which was carried out for 2 weeks which was observed and evaluated with the World Health Organization Quality of Life (WHOQOL) questionnaire from the results of 86 adequate categories to 105 good categories.
3. Gardening modality therapy intervention is effective to improve the quality of life of the elderly with hypertension
4. At the level of family independence, the family is less supportive during therapy because they are busy with their work.

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